

# Dual-Personality Extended-USB Plug and Receptacle with PCI-Express or Serial-AT-Attachment Extensions

## Abstract

An extended Universal-Serial-Bus (USB) connector plug and socket each have a pin substrate with one surface that supports the four metal contact pins for the standard USB interface. An extension of the pin substrate carries another 8 extension metal contact pins that mate when both the connector plug and socket are extended. The extension can be an increased length of the plug's and socket's pin substrate or a reverse side of the substrate. Standard USB connectors do not make contact with the extension metal contacts that are recessed, retracted by a mechanical switch, or on the extension of the socket's pin substrate that a standard USB connector cannot reach. Standard USB sockets do not make contact with the extension metal contacts because the extended connector's extension contacts are recessed, or on the extension of the connector pin substrate that does not fit inside a standard USB socket.